

This Page Is Inserted by IFW Operations  
and is not a part of the Official Record

## **BEST AVAILABLE IMAGES**

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

**IMAGES ARE BEST AVAILABLE COPY.**

**As rescanning documents *will not* correct images,  
please do not report the images to the  
Image Problem Mailbox.**

1   **What Is Claimed Is:**

2

3           1.   A satellite system operating over a land  
4 mass comprising:

5                   a first satellite generating a first  
6 plurality of spot beams directed at said land mass,  
7 said first set of spot beams partially covering said  
8 land mass;

9                   a second satellite generating a second  
10 plurality of spot beams;

11                   said first plurality of spot beams and said  
12 second plurality of spot beams in combination provide  
13 substantially ubiquitous coverage over the land mass.

1           2.   A satellite system as recited in claim  
2 1 wherein said first satellite and said second  
3 satellite are selected from the group consisting of a  
4 MEO, a GEO, and an IGSO.

1           3.   A satellite system as recited in claim  
2 1 wherein said spot beams are V band.

1           4.   A satellite system as recited in claim  
2 1 wherein said spot beams are K band.

1           5.   A satellite system as recited in claim  
2 1 wherein said first plurality of spot beams comprise  
3 a plurality of reconfigurable spot beams.

1           6.   A satellite system as recited in claim  
2 1 wherein said plurality of reconfigurable spot beams

3 comprises a first spot beam directed at a first area  
4 and a second spot beam directed substantially to said  
5 first area.

1           7. A satellite system as recited in claim  
2 1 wherein at least one of said plurality of spot beams  
3 having a plurality of beam portions.

1           8. A satellite system as recited in claim  
2 1 wherein said at least one of said plurality of beam  
3 portions being independently adjustable in response to  
4 a condition.

1           9. A satellite system as recited in claim  
2 8 wherein said condition is rain.

1           10. A satellite system as recited in claim  
2 8 wherein said condition is heavy traffic routed  
3 through said satellite.

1           11. A portable antenna assembly for  
2 communicating with a satellite comprising:  
3 a connector;  
4 a transmission wire coupled to said  
5 connector; and  
6 an antenna element coupled to said  
7 transmission wire, said antenna element sending and  
8 receiving signals from said satellite.

1           12. A portable antenna assembly as recited  
2 in claim 11 wherein said antenna element comprises a  
3 parabolic dish.

1           13. A portable antenna assembly as recited  
2 in claim 11 wherein said antenna element comprises a  
3 phased array.

1           14. A portable antenna assembly as recited  
2 in claim 11 wherein said antenna element generates a  
3 mechanically steered electronically shaped beam.

1           15. A portable antenna assembly as recited  
2 in claim 11 further comprising a motor coupled to said  
3 antenna element.

1           16. A portable antenna assembly as recited  
2 in claim 15 further comprising an antenna controller  
3 coupled to said motor for controlling a position of  
4 said antenna element through said motor.

1           17. A system for communicating with a  
2 satellite comprising:  
3           an electronic device having a communications  
4 port; and  
5           a portable satellite antenna coupled to said  
6 communications port for coupling said electronic  
7 device directly to a satellite.

1           18. A system as recited in claim 17 wherein  
2 said electronic device has an antenna controller  
3 coupled to said electronic device.

1           19. A system as recited in claim 17 wherein  
2 said electronic device comprises a laptop computer.

1           20. A system as recited in claim 17 wherein  
2 said electronic device comprises a computer in an  
3 automotive vehicle.

1           21. A system as recited in claim 19 wherein  
2 said automotive vehicle is one from the group  
3 consisting of an airplane, a car, a boat, and a train.

1           22. A switch for use in a satellite system  
2 comprising:

3           a receiver for receiving a signal from a  
4 beam of a signal source;

5           a beam router;

6           a controller coupled to said receiver, said  
7 controller directing the signal to said beam router,  
8 said controller controlling the operation of the beam  
9 router; and

10          a bent pipe repeater coupled to said router,  
11 said bent pipe repeater directing the signal back to  
12 the beam; and

13          a digital packet switch coupled to said  
14 controller to direct the signal to a second beam.

1           23. A switch as recited in claim 22 wherein  
2 said signal source is a terrestrial system.

1           24. A switch as recited in claim 22 wherein  
2 said signal source is another satellite.

1           25. A switch as recited in claim 22 wherein  
2 said digital packet switch comprises a demodulator.

1           26. A switch as recited in claim 22 wherein  
2 said digital packet switch comprises an instruction  
3 reader for reading an instruction.

1           27. A switch as recited in claim 22 further  
2 comprising a look up table, said look-up table  
3 providing a routing instruction to said controller.

1                   28. A switch as recited in claim 22 wherein  
2 said digital packet switch comprises a beam router for  
3 routing the beam.

1                   29. A switch as recited in claim 22 wherein  
2 said digital packet switch comprises a remodulator.

1                   30. A switch as recited in claim 22 wherein  
2 said bent pipe comprises a carrier frequency shifter.  
1